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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,777	10/30/2003	Nathan Palestrant	7547-A-11	1721

7590 01/28/2008  
Jordan M. Meschkow  
Meschkow & Gresham, PLC  
Suite 409  
5727 North 7th Street  
Phoenix, AZ 85014

EXAMINER
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HOGAN, JAMES SEAN

ART UNIT	PAPER NUMBER
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3752

MAIL DATE	DELIVERY MODE
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01/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/698,777

Applicant(s)

PALESTRANT, NATHAN

Examiner

James S. Hogan

Art Unit

3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Terminal Disclaimer***

The terminal disclaimer filed on November 0, 2007 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,863,230 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 11-17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,921,468 to Palestrant in view of U.S. Patent No. 4,721,251 to Kennedy et al and further in view of U.S. Patent No. 4,801,091 to Sandvik.

Regarding claims 1-9, 11, 12, 13, 19 and 20, Palestrant fully teaches an atomizing nozzle, and thus the method of making a nozzle (22) having a nozzle body (28) and a fluid chamber (34) that has an impeller (or plunger (36))) residing within the fluid chamber.. Palestrant does not teach a metallic orifice insert. Kennedy et al teaches a metallic insert (12) (Col. 5, lines 65-67) affixed inside a nozzle body proximate the body outlet (13). Neither Palestrant nor Kennedy et al teach a preferred material for nozzle component parts. Sandvik teaches a showerhead for use in various environments of hot and cold temperatures where the nozzle body (10) can be

manufactured of anodized aluminum (Col. 10, lines 27-30). As a result it would have been obvious to one having ordinary skill in the art at the time the invention was made to have chosen anodized aluminum as a preferred material as taught by Sandvik, however, it should also be known that it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice, as in the nozzle insert and impeller. See *in re Leshin* 125 USPQ 416. As per claim 2, Palestrant teaches a body chamber forming at least part of the fluid chamber, and a fluid inlet channel (50) proximate the body chamber, but does not teach an insert recess. Kennedy et al teaches its insert placed within a recess (14) proximate the body outlet and formed with the body chamber. As per claim 3, 13, and 15 the insert of Kennedy et al is cylindrical with an inlet and an outlet, fitting, presumably affixed, into a corresponding cylindrical insert chamber, and has a conical bevel (at (14)). As per claim 16, while not taught by Palestrant or Kennedy et al, the method of crimping or brazing the insert into a recess is found to be commonplace within the industry of nozzle manufacturing, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have brazed or crimped the insert into place. As per claim 6, Palestrant teaches a body and fluid chamber being linked together, and Kennedy et al teaches its insert within an insert chamber. As per claims 7, 8, and 17 Palestrant does not teach two differing sized chambers. Kennedy et al teaches a cylindrical first chamber (at inlet 11a) having a first chamber length, and having a first chamber diameter; and a substantially cylindrical second chamber (at 15a) having a second chamber length and having a

second chamber diameter greater than or equal to the first chamber diameter, and where the fluid chamber has a fluid chamber length substantially equal to a sum of said first chamber length and said second chamber length, and its insert having an outlet channel. As per claim 9, as best as can be determined, Kennedy et al teaches its nozzle body having an inlet channel (at 15 a) with a channel diameter and an orifice insert having an outlet channel having an outlet channel diameter (at 13); and the impeller has an impeller diameter and an impeller length, the impeller diameter is greater than said inlet channel diameter and impeller diameter is greater than said outlet channel diameter; and it looks to be that the impeller diameter is less than said first chamber diameter; and said impeller length is less than a sum of said first and second chamber lengths. As per claim 14 Palestrant teaches threads as part of the nozzle construction. Summarily, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the nozzle of Palestrant with the insert and chamber arrangement of Kennedy et al, and with material choices as taught by Sandvik and well within one having ordinary skill, in order to produce a misting nozzle with durable, albeit replaceable components.

Claims 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,921,468 to Palestrant in view of U.S. Patent No. 4,721,251 to Kennedy et al and further in view of U.S. Patent No. 4,801,091 to Sandvik and even further in view of U.S. Patent No. 6,283,387 to Palestrant

The rejection of claims 1 and 11 above serve as the basis for the following. As per claim 10 and 18, Palestrant ('468) teaches the impeller having a length, diameter,

inlet end outlet end and where the impeller inlet end is closer to the nozzle inlet end than the nozzle outlet end when the impeller resides within the fluid chamber but does not, nor does Kennedy et al teach a chamfered impeller with circumferential grooves. Palestrant ('387) teaches a planar surface at an impeller outlet end (42), wherein the planar surface is substantially circular, has a surface circumference, and has a surface diameter less than the rest of the impeller diameter; and a plurality of grooves (56) at the impeller outlet end, where each of said grooves has an outer edge substantially tangential to said surface circumference. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the impeller of the combined Palestrant ('468), Kennedy et al and Sandvik invention with the impeller designs of Palestrant ('387) in order to improve the fit of the impeller within a chamber.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is as follows:

U.S. Patent No. 6,419,167 to Fuchs

U.S. Patent No. 6,193,172 to Soule et al

U.S. Patent No. 5,934,569 to Soule et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Hogan whose telephone number is (571) 272-4902. The examiner can normally be reached on Mon-Fri, 7:00a-4:00p EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P. Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSH  
1/16/2008

A handwritten signature in black ink, appearing to read 'Dinh Q. Nguyen', with a stylized, flowing script.

**DINH Q. NGUYEN**  
**PRIMARY EXAMINER**